# CIVIL QUALITY CONSULTANTS & ENGINEERS

(Buildings Geo-Tech & Highway Materials Testing Laboratory)
An ISO 9001: 2015 Certified Company
NABL Accredited As Per ISO/IEC : 17025:2005 Laboratory

JAS-ANZ
ISO 9001:2000 CERTIFIED


Job No.: CQCE/BBMP/MEW/W.No.12/2019-2020 Date: 08.01.2020

## TEST REPORT ON CEMENT

**Client** : **Assistant Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
**Agency** : **M/S Mahendra Engineering Works,** Bangalore.
**Name of Work** : Maintenance of UGD in ward no.12, Shettyhalli Sub Division, BBMP, Bangalore.
**Sample ID:** : Cement (ACC 53 grade OPC)
**Sample Supplied by:** : AGENCY
**Date of Manufacture:** : December-2019
**Date of Testing** : 06.01.2020 to 08.01.2020

| Sl.No | Descriptions | Test Method as per IS | Test Result | Requirements as per IS: 269:2015 |
|---|---|---|---|---|
| 1 | a) Initial Setting Time | IS-4031 (Part - 5):1988(RA 2014) | 120 Minutes | Not Less than 30 Minutes |
| | b) Final Setting Time | IS-4031 (Part - 5):1988(RA 2014) | 350 Minutes | Not More than 600 Minutes |
| 2 | Soundness | IS-4031 (Part 3) :1988 (RA 2014) by the Le-Chatelier method | 1 mm | Not more than 10 mm |
| 3 | Standard Consistency | IS-4031 (Part -4) | 28.00% | - |

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2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 30days from the date of testing.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory


Office & Laboratory : # 133, Bhuvaneshwarinagar, Dodda Basti Main Road, Bangalore - 560 056.
e-mail: civilqualityconsultants@gmail.com Ph: 080-23240644 / Mob: 8553518550

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Job No.: CQCE/BBMP/MEW/W.No.12/2019-2020 Date : 08.01.2020

## TEST REPORT ON FINE AGGREGATES (SAND)

**Client** : **Assistant Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

**Agency** : **M/S Mahendra Engineering Works,** Bangalore.

**Name of Work** : Maintenance of UGD in ward no.12, Shettyhalli Sub Division, BBMP, Bangalore.

**Date of Testing** : 08.01.2020

**IS Code** : IS 383:2016
: IS 2386 (Part 1):1963(RA 2011)

**Material** : Sand Total Wt. of Aggregates in gms **1000**

| Is Sieve Size in mm | Weight Retained (gm) | Retained Weight in % | Cumulative Retained Weight in % | Cumulative Weight Passing in % | Requirements as per IS 383:2016 Spec.Limits For Zone-II |
|---|---|---|---|---|---|
| 10 | 0 | 0 | 0 | 100 | 100 |
| 4.75 | 85 | 8.50 | 8.50 | 91.5 | 90-100 |
| 2.36 | 124 | 12.40 | 20.90 | 79.1 | 75-100 |
| 1.18 | 168 | 16.80 | 37.70 | 62.3 | 55-90 |
| 600 Micron | 214 | 21.40 | 59.10 | 40.9 | 35-59 |
| 300 Micron | 163 | 16.30 | 75.40 | 24.6 | 8-30 |
| 150 Micron | 147 | 14.70 | 90.10 | 9.9 | 0-10 |

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Job No.: CQCE/BBMP/MEW/W.No.12/2019-2020 Date: 13.01.2020

## TEST REPORT OF PHYSICAL REQUIREMENTS OF BRICKS

**Client** : **Assistant Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

**Agency** : **M/S Mahendra Engineering Works,** Bangalore.

**Name of Work** : Maintenance of UGD in ward no.12, Shettyhalli Sub Division, BBMP, Bangalore.

**Reference to BIS codes** : IS 1077 : 1992(RA 2011) Common Burnt Clay Building Bricks- Specification

IS 3495 (Part 1 to 3) : 1992(RA 2011)
Method of Tests Burnt Clay Building Bricks
Part 1:Determination of Compressive Strength, (Cl 4.2.3)
Part 2:Determination of Water Absorption,(Cl 4.1.3)
Part 3: Determination of Efflorescence, (Cl 4)

**Date of test** : 08.01.2020 to 13.01.2020

### COMPRESSIVE STRENGTH

| Sl.No. | Compressive strength of individual bricks (N/mm2) | Acceptability as per IS 1077:1992, Clause 7.1 |
|---|---|---|
| 1 | 5.5 | The bricks shall have a minimum average compressive strength for various classes as given in Table 1 of IS 1077: 1992. The compressive strength of any individual bricks shall not fall below the minimum compressive strength specified for the corresponding class of brick by more than 15%. |
| 2 | 5.6 | |
| 3 | 5.8 | |
| 4 | 5.9 | |
| 5 | 5.4 | |
| **Average of 5 bricks** | 5.6 | |


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**WATER ABSORPTION:**

| Sl.No. | Water Absorption(%) | Acceptability as per IS 1077:1992, Clause 7.2 |
|---|---|---|
| 1 | 10.1 | The water Absorption of bricks shall not be more than 20% by weight upto class 12.5 and 15% by weight for higher classes. |
| 2 | 10.5 | |
| 3 | 10 | |
| 4 | 10.4 | |
| 5 | 10.6 | |
| Average of 5 bricks | **10.3** | |

**EFFLORESCENCE:**

| Sl.No. | Efflorescence | Acceptability as per IS 1077:1992, Clause 7.3 |
|---|---|---|
| 1 | Moderate | The efflorescence shall not be more than 'moderate" upto class 12.5 and "slight" for higher classes. |
| 2 | Moderate | |
| 3 | Moderate | |
| 4 | Moderate | |
| 5 | Moderate | |

**DIMENSIONS AND TOLERANCES**

| Sl.No. | Dimensions obtained for 20 bricks(mm) | | Acceptability as per IS 1077:1992, Clause 6.2(b) |
|---|---|---|---|
| 1 | Length | 4650 | 4520 to 4680 mm |
| 2 | Width | 2185 | 2160 to 2240 mm |
| 3 | Height | 1390 | 1360 to 1440 mm |

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Job No.: CQCE/BBMP/MEW/W.No.12/2019-2020

Date: 16.01.2020

## Test Report Of Glazed Stoneware Pipes

| | |
|---|---|
| Client | **Assistant Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore. |
| Agency | **M/S Mahendra Engineering Works,** Bangalore. |
| Name of the work | Maintenance of UGD in ward no.12, Shettyhalli Sub Division, BBMP, Bangalore. |
| Type of Sample | **Salt Glazed Stoneware Pipe(200mm dia)** |
| Techinical Reference | **As Per IS-651:2007 (VI revision)** |
| Date of Testing | 16.01.2020 |

| Sl no | Internal Diameter | % absorption | % of Acid Resistance | Crushing Strength kN/m |
|---|---|---|---|---|
| 1 | 200mm | 4.8 | 1.35 | 18.60 |
| 2 | 200mm | 5.6 | 1.49 | 17.50 |
| 3 | 200mm | 4.9 | 1.62 | 17.90 |
| **Requirements as per IS-651:2007(VI Revision)** | ----- | **Maximum 6%** | **Not Exceed 2.5%** | **Minimum 16kN/m** |

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Job No.: CQCE/BBMP/MEW/W.No.12/2019-2020 Date : : 21.01.2020

## GRADATION FOR WMM

Client : **Assistant Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

Agency : **M/S Mahendra Engineering Works,** Bangalore.

Name of Work Maintenance of UGD in ward no.12, Shettyhalli Sub Division, BBMP, Bangalore.

**IS Code:** : IS 2386 (Part 1):1963(RA 2011)

Date of Testing : 21.01.2020

Material Type : Wet Mix Macadam

Oven Dry.Wt, grar 10000

| Is Sieve Size in mm | Weight Retained (gm) | Cumulative Weight Retained (gm) | Cumulative % of Retained | Cumulative % of Passing | Requirement as per MORTH 5th edition table no 400.13 |
|---|---|---|---|---|---|
| 53 | 0 | 0 | 0 | 100 | 100 |
| 45 | 236 | 236 | 2.4 | 97.6 | 95-100 |
| 22.4 | 2474 | 2710 | 27.1 | 72.9 | 60-80 |
| 11.2 | 2231 | 4941 | 49.4 | 50.6 | 40-60 |
| 4.75 | 1987 | 6928 | 69.3 | 30.7 | 25-40 |
| 2.36 | 1236 | 8164 | 81.6 | 18.4 | 15-30 |
| 0.600 | 541 | 8705 | 87.1 | 13.0 | 8-22 |
| 0.075 | 985 | 9690 | 96.9 | 3.1 | 0-5 |

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